Gibney (V. P.)

NOTES ON THE MANAGEMENT OF ORTHOPEDIC CASES.

By VIRGIL P. GIBNEY, M.D.,

Asst. Surgeon to the Hospital for the Ruptured and Crippled, New York.

READ BY INVITATION BEFORE THE KENTUCKY STATE MEDICAL SOCIETY, LEXINGTON, MAY 20, 1880.

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NOTES ON THE MANAGEMENT OF ORTHOPEDIC CASES.

Without giving a strictly logical definition of the terms of my title, I shall simply endeavor to elucidate as briefly as possible, and pass to the consideration of certain branches of the subject in a manner as little desultory as the necessities of the case will permit.

I fear that I shall be unable to do justice to the subject in the time so kindly allotted me; and with a view of condensing I shall omit the usual prefatory remarks touching the honor of which I am sensible in being invited to read a paper before the Kentucky State Medical Society.

By orthopedic cases is meant diseases of the joints and bones in their immediate vicinity; lateral deviations and rotations of the spinal column; muscular contractions from diseases which affect their nerve supply or the tissues themselves mechanically; the various forms of paralysis *par excellence*, essential, spinal, or infantile; and the congenital deformities, including talipes equino varus. The above enumeration fairly covers the diseases that fall under the care of the orthopedist; and it will be observed that the majority are essentially chronic. And just here, in passing, let me call attention to this fact—specialists as a rule have to deal with chronic diseases, diseases that the general practitioner dislikes to encounter. If I were in general practice I should religiously avoid a hip- or spine-disease, a case of chronic eczema or of ichthyosis, a case of old conjunctivitis or of blepharitis with narrowing of the palpebral opening, a case of locomotor ataxia, or of old cerebral hemorrhage. The hospitals in New York, and I believe elsewhere, will not admit such cases if it can be helped, or unless indeed they be devoted exclusively to the treatment of some one of the ailments I have mentioned.

Now it occurs to me that one reason for this apparent shifting of responsibility is due in a great measure to the various treatments so enthusiastically recommended by men in these various specialties. For instance, we read or are otherwise taught that the plaster-of-paris jacket will cure Pott's disease and lateral curvature; that Dr. Smith's modification of Dr. Jones's long splint will cure hip-disease; that a high shoe and crutches will cure hip-disease; that electricity will cure infantile paralysis; and that Dr. Robinson's clubfoot shoe will cure clubfoot without any cutting.

All these various methods are extolled; a discussion is held before some learned body, and men who have had what may be termed a *grooved* experience record extemporaneously their impressions which favor the method; the discussion is published in a metropolitan journal; and so

the impressions are sown broadcast as facts. The truth is, men who get an idea that looks practical publish that idea unsupported by facts; they develop a mode of treatment and employ it in one or two cases; their enthusiasm leads them to interpret a *post hoc* as a *propter hoc;* place the case on record incomplete as it is; and so the cause of science suffers. Now this is to be deprecated; and upon such of my hearers who are not already conversant with this subject, I wish to impress the thought, orthopedic cases, like any other cases, must be *managed.* Even the most ardent advocate of the plaster-of-paris jacket—take my friend, Dr. Bryan of this city, who constructed and applied the first one in Bellevue Hospital—will tell you that he does not cure his case by a single jacket. He will tell you that he has to apply many before the danger is passed, that some fit poorly, notwithstanding all the care he may take. He will tell you that indications are slowly presenting for modifications in treatment; that abscesses form occasionally—more frequently than one would imagine; and that on this account the jacket must either be greatly modified or discontinued for a while. The locality of the disease determines in a great measure the success with which you may reasonably expect to manage a case.

If the caries be in the cervical or upper dorsal region, and you can get the management of the case early, I am not prepared just at present to advise you not to keep the child in bed in the dorsal decubitus. With the so-called jury-mast I have been personally familiar for eight years, and I can not heartily recommend it to any one but an expert. The chin-piece, too, requires a great deal of dexterity to manage successfully. A head-spring that does not fit is worse than useless. When can one decide as to its fit? Whenever the head swings clear of springs or straps or buckles that will excoriate, and is held in line with the vertical axis of the body, consult the child's comfort. If the disease be in the middle dorsal region a jacket or a brace without shoulder-straps or plates will not suffice to prevent deformity. Deformity will increase here as a rule despite your most vigilant care.

The classical hunchbacks that meet our gaze as we walk the thoroughfares of any large city are cases wherein the upper or middle dorsal vertebræ were first involved, and talk as the orthopedist may about cures and the advance of this branch of the science, such cases walk about to-day advertising our helplessness. If the lower dorsal, lumbar, or sacral become primarily involved, any man can treat the case. I declare to you that I have seen some excellent results where the surgeon and the instrument maker were completely ignored. If I had time I could report you eight or ten cases, notes of which I have, of spontaneous cure of Pott's disease in this region. Still an apparatus of some kind fitting well is advisable even here. It is immaterial whether you use the ordinary steel braces, the spiral corset, the plaster jacket, the paper jacket, or the jacket of hatter's felt, let it be understood that you will not dismiss the patient until you shall have procured a good fit.

In removing any removable appliance, whether by your own hands or the hands of the family, have the patient assume the horizontal position and maintain this position till the brace is reapplied. You can not insist too strongly on this rule. It must be observed under all circumstances, whether the disease be high in the dorsal region or low in the lumbar. The patient should be seen by the medical attendant at least once in two weeks. I need scarcely say to this intelligent body that the general health requires close attention.

When abscess forms, what shall we

do? I have opened not a few of these abscesses. A great many more I have waited to see open spontaneously. I am familiar with many cases wherein Callenderizing or hyperdistension of the sac has been resorted to. I claim to be conversant with the clinical literature of this subject, and I am prepared to quote approvingly the following from Billroth, in Hackley's translation from the fourth edition, revised from the eighth, page 474:

"If the abscess come from a bone on which an operation is impossible or undesirable (as the vertebræ, sacrum, pelvis, ribs, knee-joint, etc.), do not meddle with it, but be thankful for every day that it remains closed, and wait quietly till it opens, for thus there will be relatively the least danger"; and continuing, Billroth says, "When I have departed from this principle I have always regretted it. I saw with great pleasure that Pirigoff said almost exactly the same thing." You will pardon me I know for quoting from the same author on page 476:

"Summing up my own experiences, I can assure you that, of very many cases of large congestive abscesses along the spinal column, artificially opened, I know very few that ran a favorable course; the others were only hastened to their end. Hence, I again repeat the previous assertion, that these abscesses, especially congestive abscesses from caries of the vertebræ, are a *noli me tangere*. In such cases it is indeed frequently very difficult to wait; in private practice especially the patients become impatient; the surgeon is urged to do something; it is cast up to him that he does not try any thing; the public firmly believes that if the pus was only out recovery must follow. The surgeon also at length becomes weary. It is trying to look on from week to week as the abscess increases; all local and constitutional remedies are exhausted; and finally the surgeon departs from his principles and makes an opening; at first all goes well; but this does not continue. You already know the subsequent course." There are exceptions to this rule so strongly laid down by Billroth. If the abscess be in the pharynx or pressing on any vital organs the knife must be used freely. All this comes, however, in the management of the case. When an opening does take place it must be borne in mind that all will go well for seven or eight days, then hectic will appear; the constitutional disturbance may become alarming. Let, then, stimulants and tonics be resorted to freely, and you will find that relief will come in time. The interest must not lag. It requires an immense amount of patience to conduct these unfortunate ones to a successful issue. Let it be borne in mind that Pott's disease runs a long course—from two to five years. This is the rule.

Lateral curvature is due to several causes, and is treated in accordance with the cause in a particular case. Let it be understood once for all that there are old rigid curves that no apparatus yet devised by man will correct in the least—permanently, I mean. If one gets a flexible curve (and this can be determined by suspension) the correction is easily accomplished.

Shortening of a limb will produce a lateral curvature, and this shortening may be congenital, or due to asymmetrical development. If this be the cause a high shoe will afford relief. The curvature may be due to an empyema. The early use of apparatus when at all practicable is especially desirable. It will prevent if not cure.

Then there is another kind of curvature due to early rachitic changes, probably, or to asymmetrical development of the bodies of the vertebræ and the insidious development of the rotation as a consequence.

If the mechanism of lateral curvature be a rotation of the vertebræ on the axis, then there is no apparatus that will effect a rotation in the counter direction. A case of lateral curvature must be treated on general principles. The exciting cause must be found if possible, and in many instances an anemic condition will present as the most rational. In young women a disturbance of the uterine functions will often act reflexly as a cause. There are many cases where an immovable apparatus, or where in fact any apparatus that exerts long-continued pressure on muscles, does actual harm. A systematic course of gymnastics, under the direction of the family physician who will look closely into the effects, is the *sine qua non* of success.

How shall a case of hip-disease be managed? The terms hip-disease, hip-joint disease, and morbus coxarius are unfortunate, inasmuch as they but vaguely express any thing that is pathologically tangible. The pathology of hip-disease that has passed current for many years, and is now being taught by men whom we regard as authority, is altogether misleading. We are taught never to regard it as a bone-disease *ab initio*, but as a lesion of the soft parts within the joint—a lesion that if early recognized and promptly treated will disappear like magic. We never comprehend the gravity of the disease in its incipiency. Let me state my belief with all the emphasis that I can command, that the hip-disease, with whose deforming stages we are too familiar, never begins in the soft parts of the joint, but always as a central bone-disease. At one or more of the centers of ossification of the head, neck, trochanter, or acetabulum an ostitis begins; caries soon follows; and about this carious spot the ostitis extends; disintegration takes place; the *debris* finds its way toward the periphery; and in the majority of instances that point which soonest yields is within the capsular ligament; a secondary synovitis is induced, and then follows all those disastrous results which our specialty and surgery in general is so powerless to successfully combat. These, gentlemen, are the cases that do not make a perfect recovery, even if the most successful orthopedist gets them under treatment the moment the first white blood corpuscle wanders from its channel to light up disease. The confession had just as well be made—get them early or get them late, we do not make perfect joints.

These I should like to see called cases, not of hip-disease, but of articular ostitis of the hip or of diaphyso-epiphysitis of the hip. We should know then from the beginning with what we have to deal; we should know that a primary synovitis—a comparatively harmless thing in children—was not what we had to treat by extension apparatus.

This articular bone-disease is a disease peculiar to early childhood, is a chronic disease, and my faith leans strongly toward its being tubercular. Of five hundred and sixty cases that have come under my own observation, three hundred and fifty-three, or sixty-three per cent, developed within the first five years of life, and two hundred and ninety, or more than fifty per cent, developed between the ages of three and five years. Only thirty-nine of the five hundred and sixty developed after the tenth year of life.

The diseases that begin in the soft parts in and around the hip, and give signs that lead one to suspect hip-disease or primary bone-disease, are periarthritis, terminating by resolution or suppuration, periostitis, iliac, subfacial or pentyphlytic abscess, perinephritis, subacute rheumatism occurring in children whose parents are decidedly rheumatic, acute synovitis of the hip—a very rare affection—a neurosis of the hip, generally of spinal origin, or, as I have seen myself, the first stages of infantile paralysis.

The most important element, then, in the management of a case of hip-disease is to be certain that you have a hip-disease to treat; in other words, study diagnosis. It will be worth more to you than you can well imagine.

The other lesions about the hip are the lesions that yield so promptly to treatment, and give to him who is so fortunate as to get such to manage a valuable reputation in our specialty. These, gentlemen of the society, are the cases of hip-disease we hear men speak so flippantly about curing with or without splints, with or without vesication. Occasionally the man who is so successful in treating this kind of hip-disease meets with a case of the genuine kind—the articular ostitis—and all does not go well. He fails, and the failure is attributed to negligence on the part of the family or of that other scapegoat of the specialist, the family physician.

But I have allowed myself to digress—the bypath was too tempting. The disease being recognized and its full import being comprehended, the indications will force themselves upon you. In the first place, treat it as you would any tubercular disease, and do n't waste time in discussing in your own mind whether it be tubercular or scrofulous or purely traumatic. May it not be all of these? Give the child, as you would give your own child, the benefit of the doubt, and place it under the most favorable hygiene. Give it an out-of-door life and see that the standard of health is kept above par.

Let your aim be to prevent deformity, yet not at the expense of aggravating the disease. Employ that extension which seems to you physiological. I am almost prepared, though not fully, to recommend the plan championed by Dr. Hutchison, of Brooklyn, viz. the high shoe for the foot of the sound limb and a pair of crutches. At present I have a number of cases under this treatment and most of them are doing well, yet I do not see that any are approximating perfect results. Dr. Hutchison claims this. A two years' experience has not convinced me that I can get what he claims. This extension must be continued for a long time—at least two and a half years.

At a meeting of the Medical Journal Association of New York, February 1, 1878 (see Medical Record, vol. 13, page 174), I analyzed eighty cases and found that "in thirty-three cases the disease ran its course in three years, in twenty-eight cases the duration varied from three to six years, in sixteen cases it varied between six and ten years, in one case it ran its course in fifteen years."

When abscess appears be not in haste to employ the bistoury, even in this age of Listerism. Be not hasty in inserting the needle of your aspirator. Wait till you find the abscess causing pain and constitutional disturbance, then relieve the parts by incision. If it be possible, look upon these as you would upon a spinal abscess, and feel that you have here too a *noli me tangere*.

Now I approach uncertain ground. Suppose the suppuration is prolonged and very profuse; suppose the general health suffers, in your judgment, beyond restoration; what shall we do next? If your patient come of a family undoubtedly tuberculous, suppuration will not be borne long before amyloid degeneration appears. In a former paper I have proved this almost beyond controversy. It is now coming into acceptation by thoughtful surgeons in New York City and elsewhere. The individual case, its pertinacity, the surroundings, and all those circumstances hard to define in a paper of this kind, must guide you as to excision or gouging.

With my present knowledge of the results of the operation, I am morally sure that some lives are saved by it when judiciously performed. I am equally sure that some lives are lost and that others

are made more wretched by its injudicious performance. I am convinced too that when we employ it as a *dernier ressort* and as a guard against amyloid degeneration we employ it wisely, and that the good we claim for it ends here.

Lest some of my surgical hearers—men who are happiest when they wield the scalpel—should think me talking in violation of great principles long since established in surgery, I wish to make this remark: In the epiphysitis of children we rarely have necrosis as distinguished from caries, and the removal of the carious portion is very difficult; that is, one is rarely sure that he has removed all the portion of bone diseased. It frequently happens that, extending from the original forms of disease in these advanced cases, we have an osteo-myelitis, and amputation would seem to be the more rational operation.

The treatment and management of clubfoot resolves itself into simple procedures. The division into congenital and acquired is a good one for prognosis. Congenital clubfoot can be cured by any family practitioner if he institute a little management when the child is born. He can have manipulation begun immediately; that is, he can direct the mother or the nurse to grasp the distorted foot with the hand and bring it gradually into position. Let the mother understand that as she nurses the child the foot can be easily thus held, she making gentle yet effective traction all the while. If apparatus be deemed necessary, no better apparatus during the first few months of life can be devised than that which the rudest mechanician or the boy with his jack-knife can construct, viz. a straight wooden splint an inch and a half in width and about six or eight inches in length—long enough to extend from the knee along the outer side of the limb to a point an inch or two from the bottom of the heel. This can be easily padded and bound by an ordinary roller, the limb having been first covered on its outer side with cotton batting or other soft material to prevent excoriation, to the upper part of the leg. Let the roller extend down the limb, then to the foot, which latter can be brought to the splint without much force and there retained in the process of bandaging. There is thus produced a complete equinus, which position can be maintained for a few weeks or months, if deemed desirable, the parents themselves being easily taught its application. The varus having thus been easily overcome, the equinus can be relieved by division of the tendo-Achillis. If an ordinary clubfoot shoe be not convenient, a plaster or a paper splint can be employed, set at right angle and made removable, in order that the angle can be changed from day to day, after the first week, by slipping in pads of muslin between the sole of the foot and the sole of the plaster boot.

Now let me assure you, in the face of all this talk about traction versus tenotomy, that you need have no apprehensions about cutting the tendons or fasciæ in a case of congenital clubfoot. The foot is not left weaker, and no paralysis is produced. You can frequently accomplish more in a moment than you can accomplish in months or years. When you do make traction insist on its being kept up night and day; and unless you can get complete control of the case for a given length of time, varying with the extent of the deformity, assume no responsibility whatever. The case, should you not get it in early infancy, will be amenable to relief and often to cure if it be faithfully managed. Of course now I am speaking of cases under ten years of age.

Concerning the operations on the bones of the tarsus for old deformities I have no experience, and my reading has not made me an advocate of such measures. If I were clubfooted myself and suffered much, as many do from ill-fitting and un-

gainly shoes, I would consider very seriously the question of amputation.

The greater part by far of cases of non-congenital or acquired clubfoot comes from infantile paralysis; and here we get the varieties, the calcaneus, the cavus, the calcaneo-valgus, the pure valgus, the valgo-equinus, and the equinus; occasionally the equino-varus. That form which is the most amenable to relief at the hands of the family physician is the equinus. This can be relieved by tenotomy; yet I would not advise tenotomy unless he were prepared with some form of apparatus that would prevent too much traction. The severed tendon must be closely watched to prevent its elongation and thus an irremediable calcaneus. After the foot has been brought to a right angle, let the patient then rely on an apparatus or a stiffened shoe that will retain it. It is a waste of time to employ electricity. You may get a foot in position and the patient be still unable to flex it beyond ninety degrees. An electrician may get the case, and should you have an opportunity to examine the member ten or twenty years hence you will find the patient still unable to flex beyond ninety degrees. The point is this: Neither the galvanic nor the faradic current will do any thing for a muscle or a group of muscles that has been one or two years paralyzed from the essential spinal paralysis.

NEW YORK, May 12.

The wise man will correct the deformities, place the child on its feet, and dismiss the case. You will pardon me if I insist on being dogmatic on this one point, for I am condensing now a nine years' large experience.

My paper has already extended beyond the limits I had marked out, and I am unable to give in detail some of the secrets of success in a specialty. They may be summed up, however, as follows:

1. Close application to study of the specialty, not neglecting medicine in general.

2. A faithful record of all cases that come under observation.

3. An earnest endeavor to make the knowledge thus gained the property of the general practitioner. By so doing you instruct yourself.

4. Special devotion to pathology and diagnosis. If one can diagnosticate well, the battle is two thirds fought.

5. The employment of drugs until their physiological effects are produced, irrespective of book doses. This is true especially of the neurologist.

6. A profound respect for the family physician, a ready excuse for all opinions he may express contrary to the actual facts in the case; in other words, a hearty coöperation with him.

And above all, an observance through life of the golden rule.